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Validating TbTIF2-interacting Candidates

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Validating TbTIF2-interacting Candidates

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Abstract

Transmitted by the tsetse fly, *Trypanosoma brucei* is a protozoan parasite that causes sleeping sickness in human and nagana in cattle. While infecting the bloodstream and central nervous system, *T. brucei* evades the immune system by altering its major surface antigen, Variant Surface Glycoproteins (VSGs), which forms a thick coat on its cell membrane. The expression sites for VSGs are at the sub-telomeric regions of *T. brucei* chromosomes. Telomeres, DNA-protein complexes located at the end of chromosomes, provide chromosome stability by preventing degradation of the chromosome ends. The telomere complex also regulates the sub-telomeric VSG expression and switching in *T. brucei*. To eradicate *T. brucei*, further understanding of how the telomere complex regulates VSG expression and switching is needed. TbTIF2 (TRF-Interacting Factor 2), a telomere-specific protein, was discovered to be essential for cell viability and the suppression of VSG switching in *T. brucei*. To better understand the telomere complex and the mechanisms of TbTIF2 function, we have performed a yeast 2-hybrid screen and identified a number of proteins that may interact with TbTIF2. The goal of our current study is to validate the TbTIF2-interacting candidates. We have subcloned several promising TbTIF2-interacting factors. We are currently testing these candidates for their interaction with TbTIF2 using yeast 2-hybrid analysis.